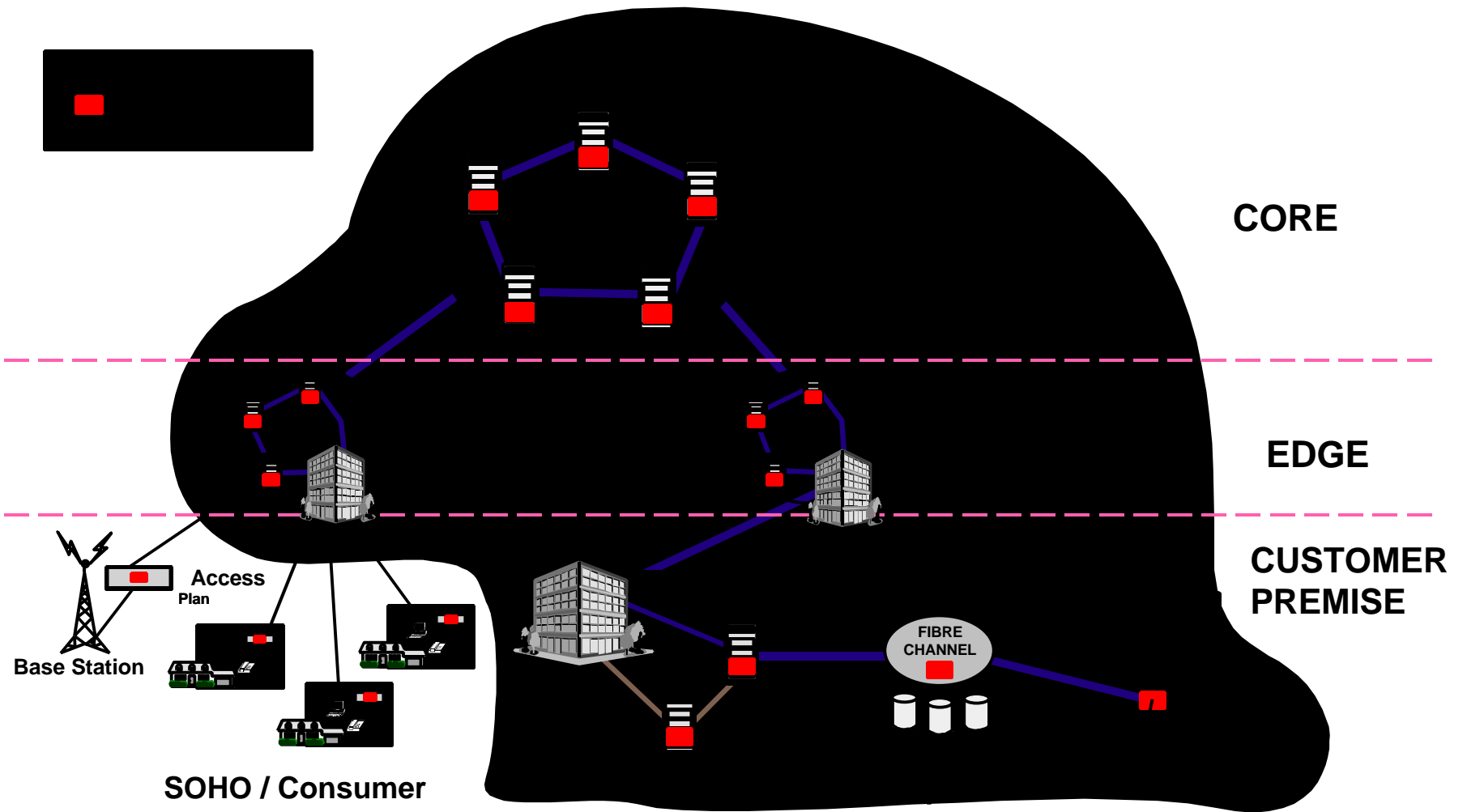
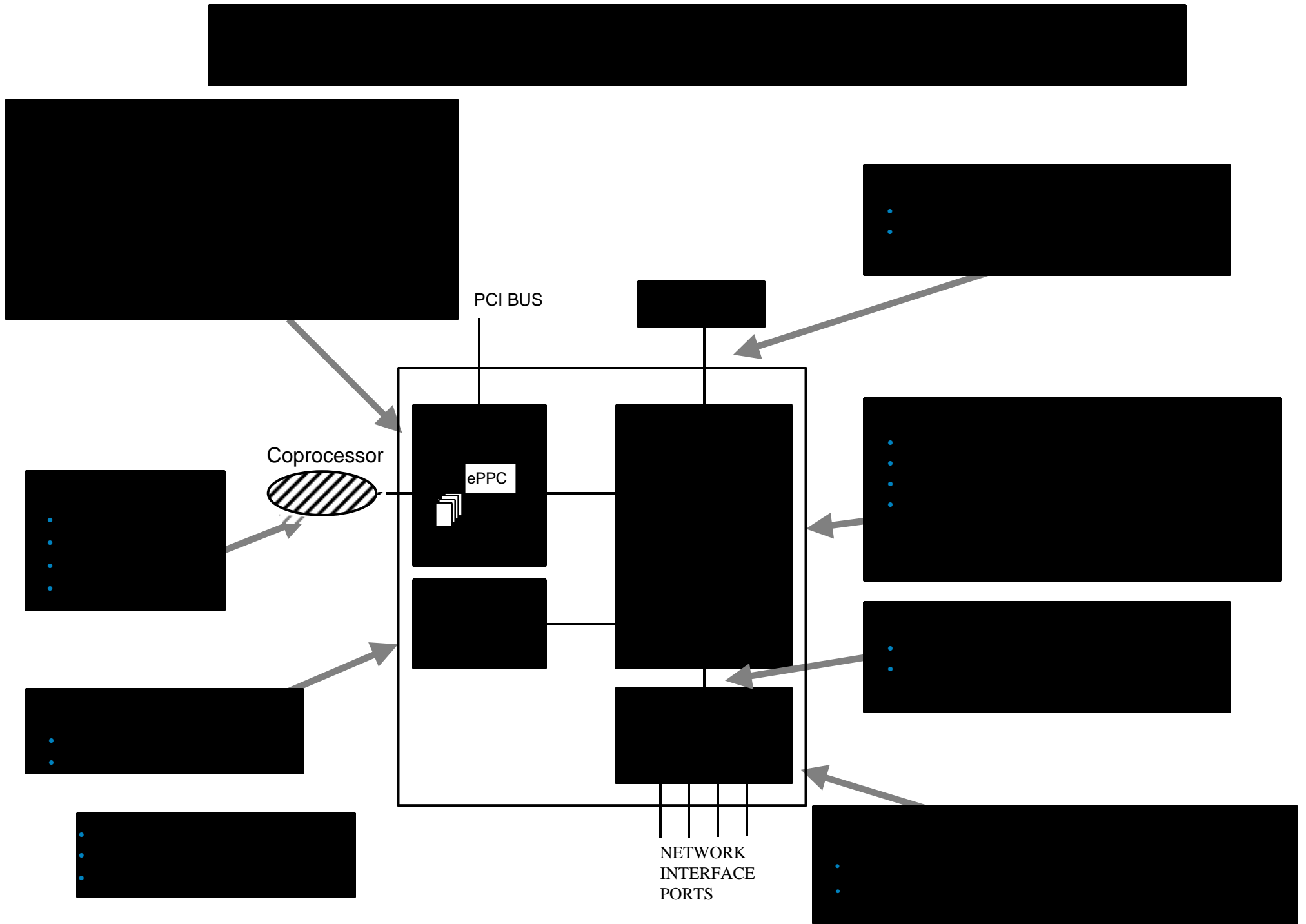


Hot Chips Symposium, August 13-15, 2000

Dr. Marco Heddes

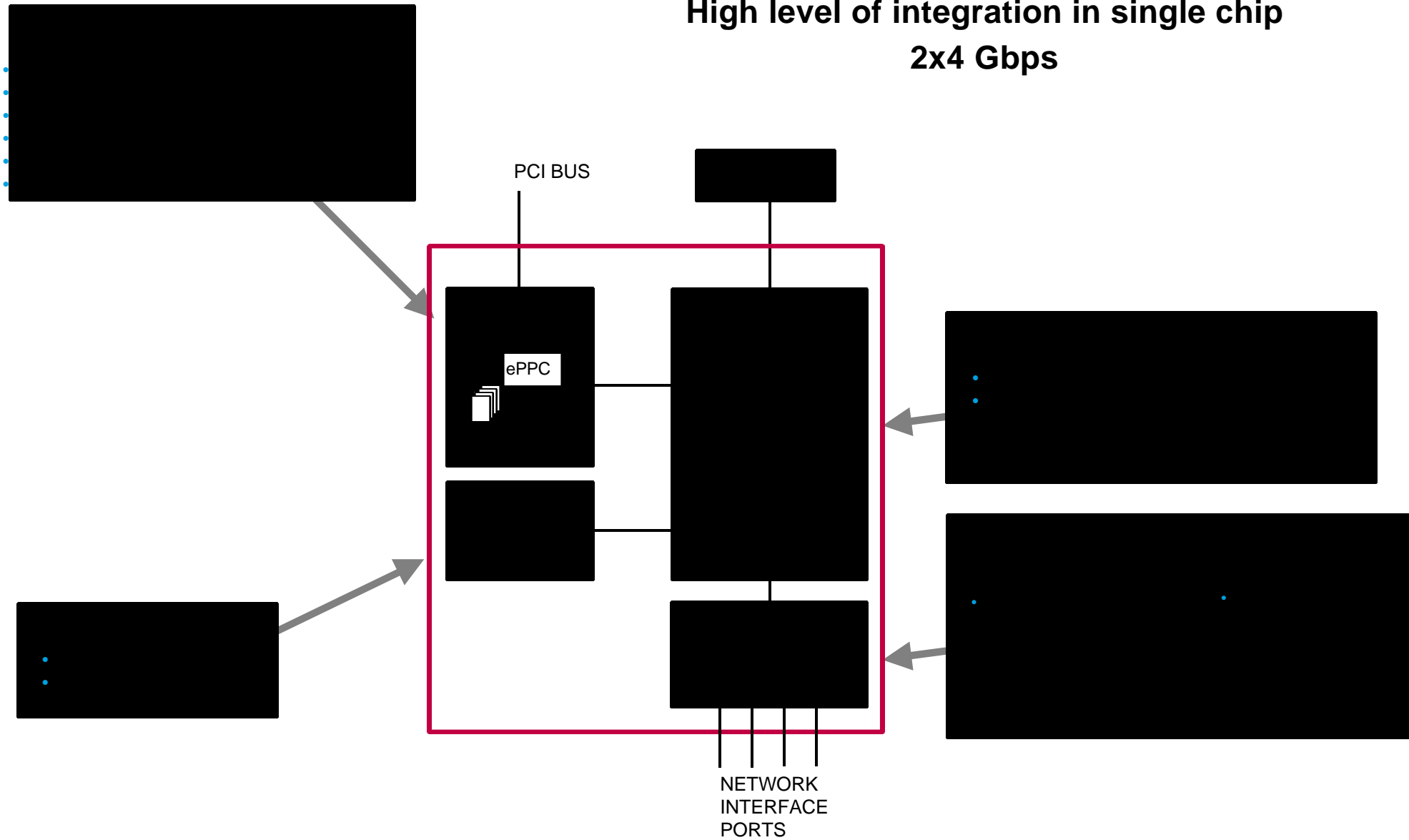
IBM Microelectronics, RTP, NC

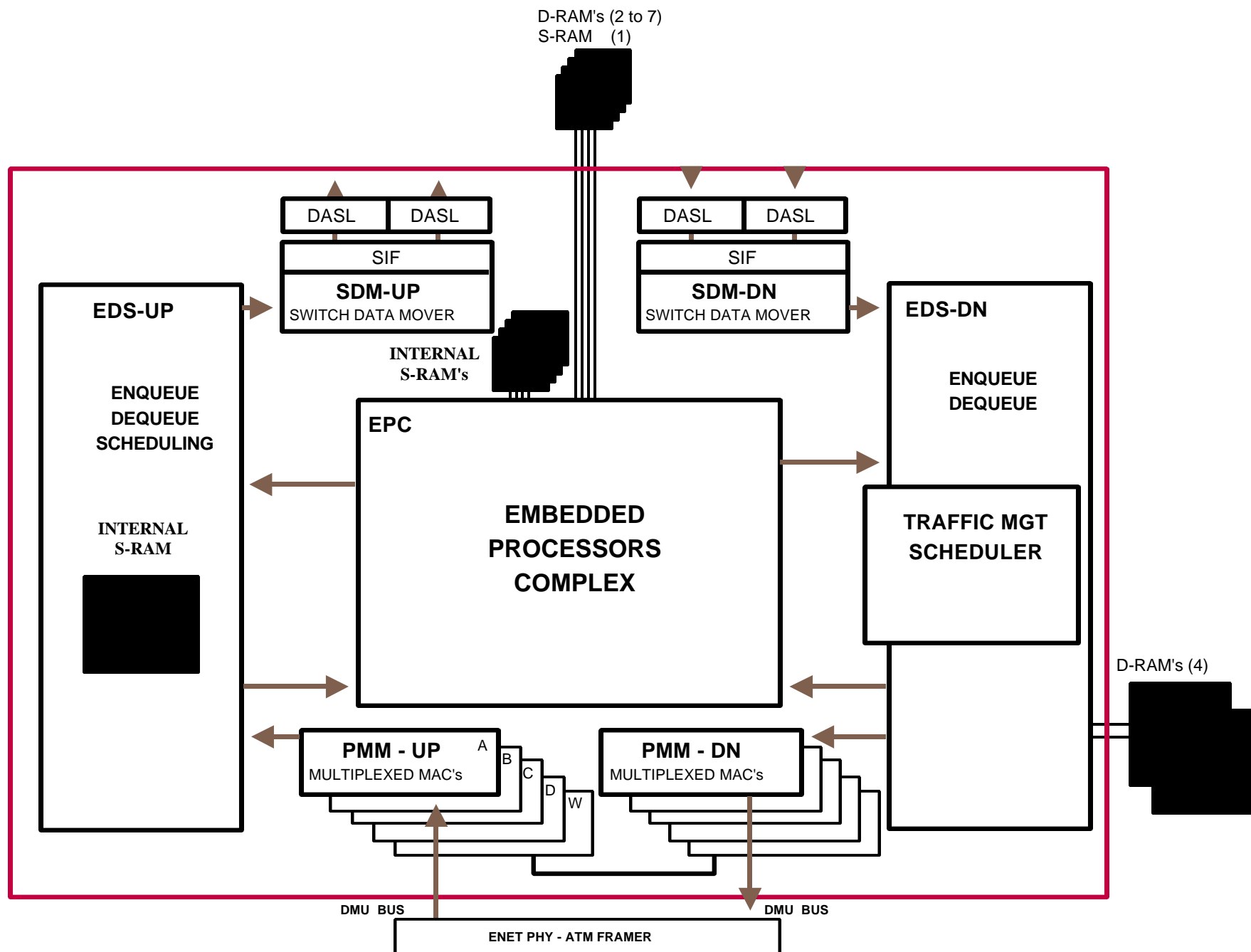


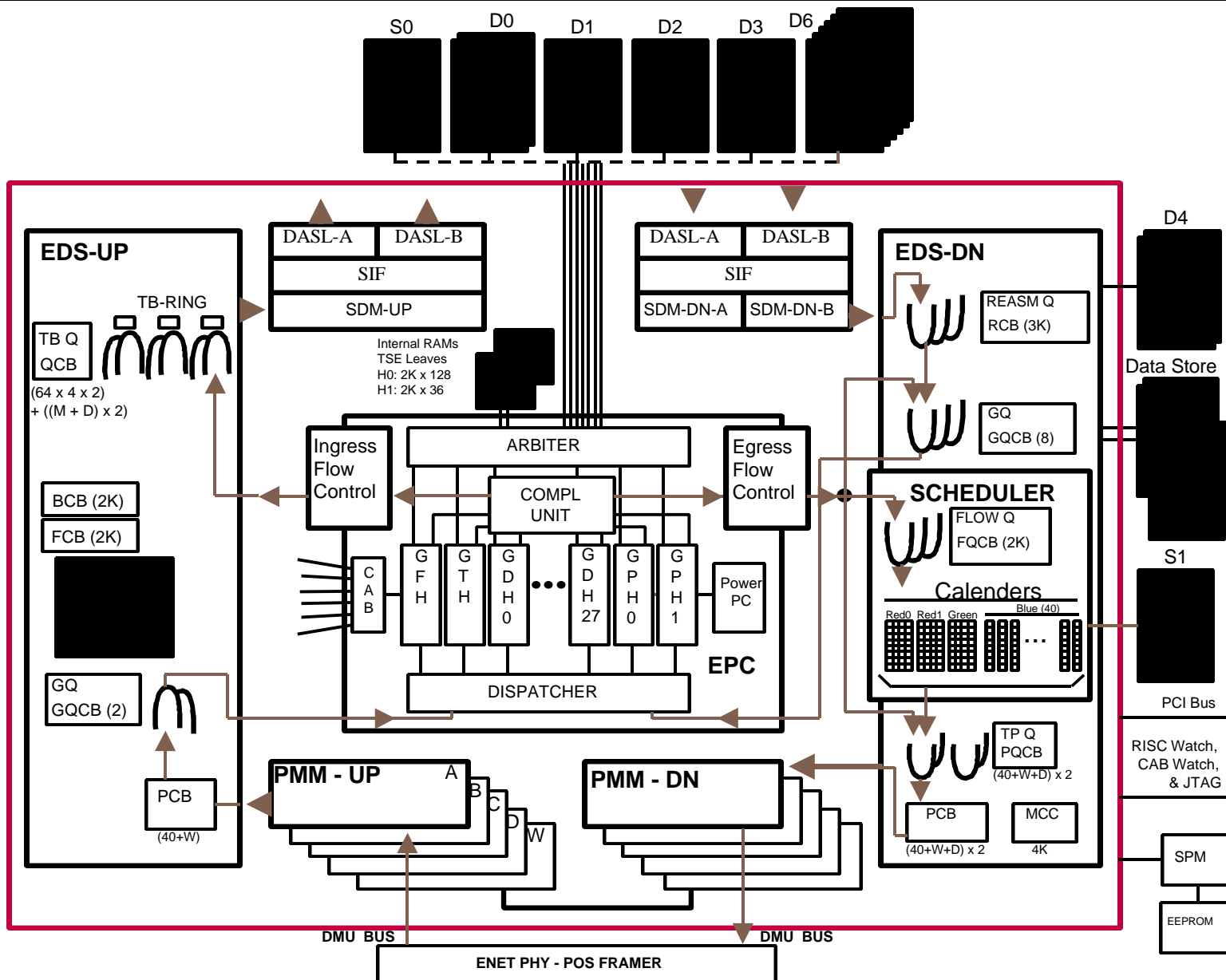


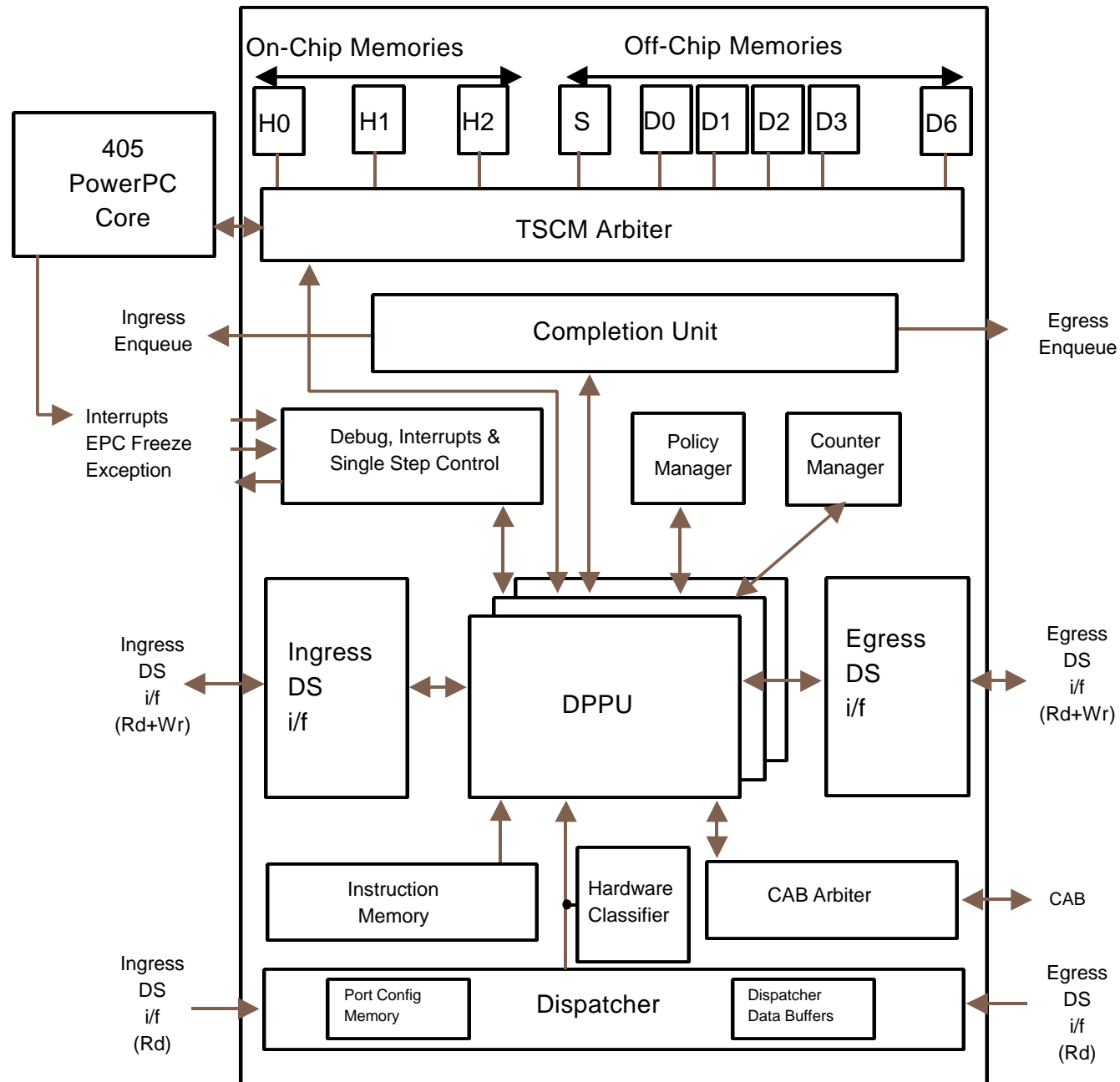
RAINIER

High level of integration in single chip
2x4 Gbps









Tree Algorithms

3 DIFFERENT TREE TYPES TUNED FOR DIFFERENT APPLICATIONS:

- FM = FIXED MATCH TREE
IDENTICAL SIZE FOR ALL THE KEYS OF THE TREE SUCH AS: L2 FORWARDING, VPI/VC1 LOOK-UP, IPX FORWARDING, RSVP TRAFFIC MANAGEMENT POLICY
- LPM = LONGEST PREFIX MATCH
VARIABLE LENGTH (BUT SAME STARTING POINT) KEYS IN THE TREE SUCH AS: IP FORWARDING, SUBNETTING CONCEPT
- SMT = SOFTWARE MANAGED TREE
 - ALL POSSIBLE COMBINATIONS OF NON-CONTIGUOUS BIT PATTERNS INSIDE THE KEYS OF THE TREE
 - RANGE COMPARISON (SMALLER/EQUAL/GREATER) FOR EACH BIT PATTERN SUCH AS: L3 FILTER RULES, L4 POLICIES



NO SCHEDULER

- 2 TARGET PORT QUEUES PER PORT (2 ABSOLUTE PRIORITIES)

SCHEDULER

- TRAFFIC MANAGEMENT PARAMETERS PER FLOW (CAN BE COMBINED):
 - GUARANTEED BANDWIDTH
 - BEST EFFORT WITH WEIGHTED FAIRNESS
 - MAXIMUM CONTROLLED BANDWIDTH (WITH BEST EFFORT)
 - MAXIMUM BURSTSIZE
 - PRIORITY (LOW LATENCY PARAMETER)

